

ORG CHART/SITE MAP MASHUP

How to create a List-driven, Graphical Org Chart using jQuery, Web Services and the Google Charting API

INTRODUCTION


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-

BLOG – WHATSTHESHAREPOINT.COM

What's The (Share)Point?
Another resource for MS SharePoint information.

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Home About Presentation Notes Speaking Engagements

I'm speaking at SharePoint Saturday – Twin Cities on Oct 29, 2011

By David Petersen, September 20, 2011 10:59 am [Comments \(0\)](#)

I just found out I'll be presenting my Mashup presentation at **SharePoint Saturday – Twin Cities on October 29!** Come see me and hopefully I'll have some books with to sign!

Uncategorized | conference, Presentations, sharepoint saturday, Site Map Edit


Org Chart/ Site Map Mashup: Wrapping it all up!

By David Petersen, August 30, 2011 11:57 am [Comments \(0\)](#)

I have received some positive feedback on this article series. Thank you! I thought I'd go ahead and create this post with links to each post in the series to make it easy to read the whole thing in order. I also want to thank [EndUserSharePoint.com](#) for picking up the series, making it available to many more people. As always, if there is a particular subject you would like to know more about, send me an email and I'll try to write something about it.


Here are all of the links!

1. Introduction




Call Me
Click and Google will connect you for free.
by Google

Buy My Book!

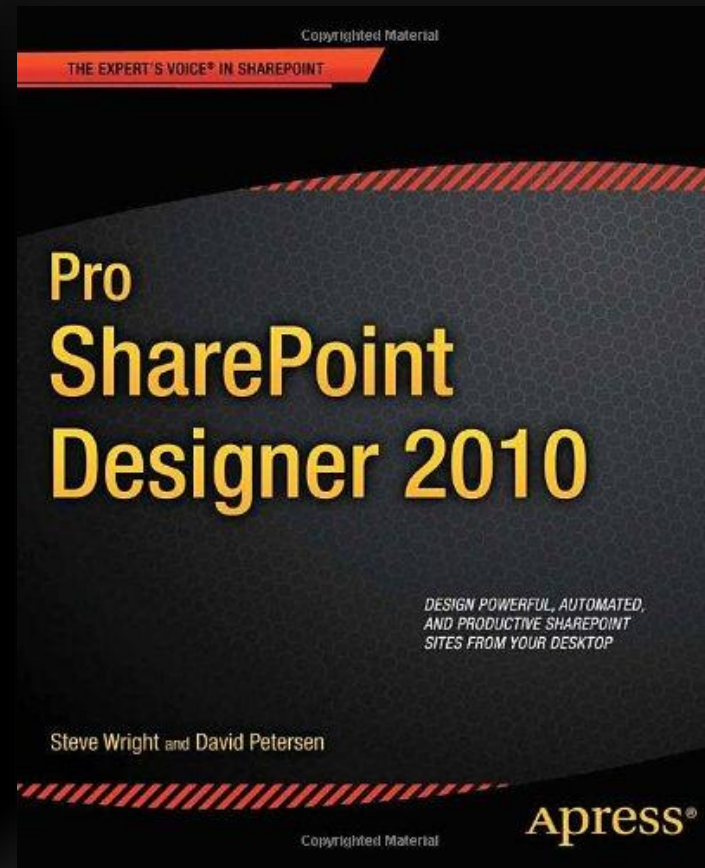


Contact Me



David Petersen, MCSD, MCTS

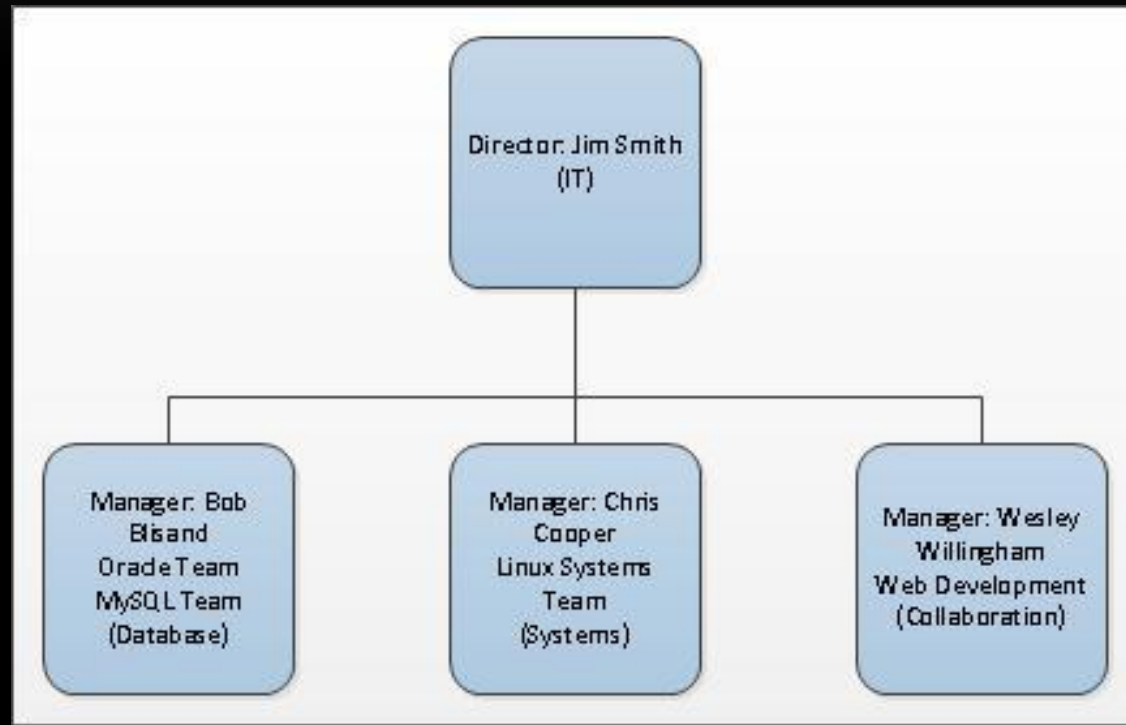
PRO SHAREPOINT DESIGNER 2010



THE PROBLEM

- Business user created an Org Chart as a JPG
 - Web programmer sliced it up and created HTML to display it on a SharePoint page
 - Lost the original graphic
 - Needed to make a change, asked for my help
 - Another JPG was not a good solution
 - Business user always had to have a programmer help update
-

ORIGINAL



THE SOLUTION

- SharePoint list-driven solution
 - Content Editor Web Part
 - Use jQuery to query the SP Web Services
 - SPServices jQuery library for SharePoint Web Services – Marc Anderson
 - <http://spservices.codeplex.com/>
 - Use Google OrgChart Visualization API
 - <http://code.google.com/apis/chart/interactive/docs/gallery/orgchart.html>
-

SHARE POINT LISTS

- **Site Map**
 - Fields
 - Title – The name of each box.
 - Parent – Defines the parent-child relationship.
 - Provides the structure of the org chart.
 - **Site Map Content**
 - Fields
 - Content – of the box.
 - Url – Provided so that we can link to somewhere on the site.
 - Position – Defines what position in the box.
 - SiteMapNode – Lookup to the Title field in the Site Map list. (Relationship to first list)
-

SITE MAP LIST

| Field Name | Type | Notes |
|------------|---------------------|--|
| Title | Single Line of Text | |
| Parent | Lookup | This lookup field references the Title field in the same list. |

Content

| Title | Parent |
|---------------|--------|
| IT | |
| Database | IT |
| Systems | IT |
| Collaboration | IT |

SITE MAP CONTENT

| Field Name | Type | Notes |
|-------------|---------------------|---|
| Content | Single Line of Text | Rename Title field |
| Url | Single Line of Text | |
| Position | Number | Set to Zero decimal places, minimum number 1 |
| SiteMapNode | Lookup | Lookup to the Site Map list and reference Title field |

CONTENT FOR SITE MAP CONTENT LIST

| Content | Url | Position | SiteMapNode |
|----------------------------|-----|----------|---------------|
| Director: Jim Smith | | 1 | IT |
| Manager: Bob Blisand | | 1 | Database |
| Oracle Team | # | 2 | Database |
| MSSQL Team | # | 3 | Database |
| MySQL Team | # | 4 | Database |
| Manager: Chris Cooper | | 1 | Systems |
| Microsoft Systems Team | # | 2 | Systems |
| Linux Team | # | 3 | Systems |
| Manager: Wesley Willingham | | 1 | Collaboration |
| SharePoint Development | # | 2 | Collaboration |
| Web Development | # | 3 | Collaboration |

DEMO

To the code...and beyond...

Columns

A column stores information about each item in the list. The following columns are cu

| Column (click to edit) | Type |
|-----------------------------|---------------------|
| Title | Single line of text |
| Parent | Lookup |
| Created By | Person or Group |
| Modified By | Person or Group |

[Create column](#)

[Add from existing site columns](#)

[Column ordering](#)

[Indexed columns](#)

Columns

A column stores information about each item in the list. The following columns are currently available in

| Column (click to edit) | Type | Required |
|-----------------------------|---------------------|----------|
| Content | Single line of text | ✓ |
| Url | Single line of text | |
| Position | Number | |
| SiteMapNode | Lookup | ✓ |
| Created By | Person or Group | |
| Modified By | Person or Group | |

[Create column](#)

[Add from existing site columns](#)

[Column ordering](#)

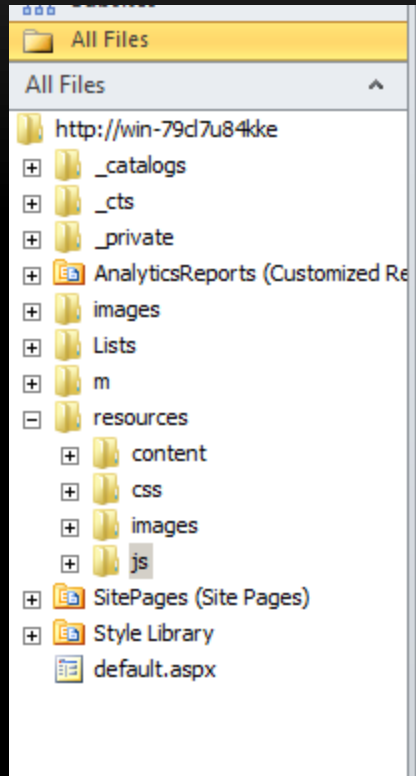
[Indexed columns](#)

Search this site...

| <input type="checkbox"/> | @ Title | Parent |
|--------------------------|---------------|--------|
| | IT | |
| | Database | IT |
| | Systems | IT |
| | Collaboration | IT |

 [Add new item](#)

| @ | Content | Url | Position | SiteMapNode |
|---|----------------------------|-----|----------|---------------|
| | Director: Jim Smith | | 1 | IT |
| | Manager: Bob Blisand | | 1 | Database |
| | Oracle Team | # | 2 | Database |
| | MSSQL Team | # | 3 | Database |
| | MySQL Team | # | 4 | Database |
| | Manager: Chris Cooper | | 1 | Systems |
| | Microsoft Systems Team | # | 2 | Systems |
| | Linux Team | # | 3 | Systems |
| | Manager: Wesley Willingham | | 1 | Collaboration |
| | SharePoint Development | # | 2 | Collaboration |
| | Web Development | # | 3 | Collaboration |



Folder Structure

- resources
 - content
 - sitemap.js
 - css
 - images
 - background-image
 - js
 - jquery
 - spservices

Home - Default Collection - Windows Internet Explorer

http://win-79d7u84kx/default.aspx?P

Home - Central Administration Home - Default Collection

System Account

Site Actions | Browse | Page | Page Tools | Web Part Tools | Options

Stop Editing | Edit Properties | Versions | Permissions | Delete Page | E-mail a Link | Alert Me | Approve | Reject | Workflows | Edit Mobile Page | Make Homepage | Title Bar Properties

Left | Right

Add a Web Part

SiteMap

SiteMap

SiteMap

Should the Web Part have a fixed height?

Should the Web Part have a fixed width?

Chrome State

Chrome Type

Layout

Advanced

OK Cancel Apply

100%

SiteMap

Content Editor

Content Link

To link to a text file, type a URL.

resources/content/SiteMap.js

[Test Link](#)

Appearance

Title

SiteMap

Height

Should the Web Part have a fixed height?

Yes Pixels

No. Adjust height to fit zone.

Width

Should the Web Part have a fixed width?

Yes Pixels

No. Adjust width to fit zone.

Chrome State

Minimized

Normal

Chrome Type

None

```
Font Paragraph Preview Editing Proo
content SiteMap.js images All Files
Default Collection > All Files > resources > content > SiteMap.js
1 <!-- Load the jQuery and SPServices libraries.
2     Make sure you verify the path -->
3 <script language="javascript" type="text/javascript" src="resources/js/jquery-1.6.4.min.js"></script>
4 <script language="javascript" type="text/javascript" src="resources/js/jquery.SPServices-0.6.2.min.js"></script>
5
6 <!-- Load the Google Charting visualization library. -->
7 <script type="text/javascript" src="http://www.google.com/jsapi"></script>
8 <script type="text/javascript">google.load('visualization', '1', {packages:['orgchart']});</script>
9
10 <!-- Create a script area for our custom code. -->
11 <script type="text/javascript" language="javascript">
12 String.prototype.wrap = function(pre,post) {
13     return pre + this + post;
14 }
15 var out="";
16 var data;
17 $(document).ready(function(){
18
19     // this is where we will write our code
20
21 });
22
23 </script>
24
25 <!-- This is the container for the site map. -->
26 <div id="sitemap"></div>
```

```
//initialize variables
var curParent='0';
var testParent;
var curTitle='';
var curId='0';
var parentId;
var boxContent='';
// create a new DataTable object that we will pass to the Google API
var data = new google.visualization.DataTable();
// add the following columns to the DataTable to store the chart values.
data.addColumn('string','Name');
data.addColumn('string','Parent');
data.addColumn('string','Tooltip');
```

```
// SPSServices return the response data in the xData object. It contains
// the response in an XML document. We can then use jQuery to find each
// row of data in the XML file and act on it.
$(xData.responseXML).find('[nodeName="z:row"]').each(function(){
    // if this node does not have a parent, then we need to save it to the DataTable
    // differently than the nodes with parents.
    if($(this).attr('ows_Parent')==null)
    {
        curParent = $(this).attr('ows_ID');
        curTitle = $(this).attr('ows_Title');
        boxContent=curTitle;


        // note the first field in the DataTable. the v:curParent and the
        // f:boxContent are in the Name field. The v: represents the Value
        // while the f: represents the display field. It may look like we're
        // saving 4 values to a 3 field table but the first field has a
        // value and display name part to it.

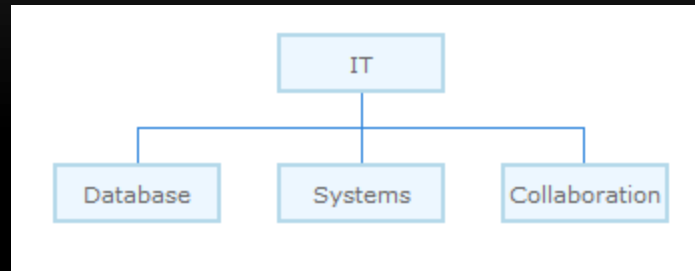
        data.addRow([v:curParent, f:boxContent],curTitle);
    }
    else
    {
```

```
else
{
testParent = $(this).attr('ows_Parent');
curTitle = $(this).attr('ows_Title');
parentId = testParent.split(';#')[0];
curId = $(this).attr('ows_ID');
boxContent=curTitle;
if(parentId !=curParent)
    curParent=parentId ;
    data.addRow([v:curId, f:boxContent},curParent,curTitle]);
}
});

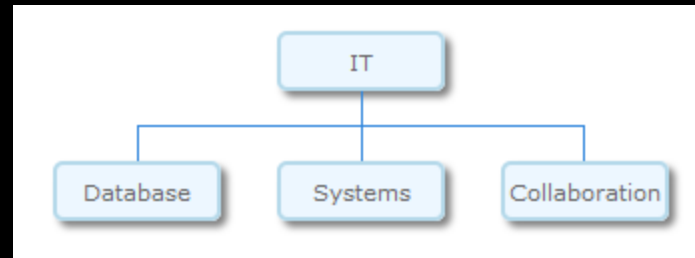
// now send it to the Google Visualization API and store the results in 'chart'
var chart = new google.visualization.OrgChart(document.getElementById('sitemap'));
// render the HTML of the chart.
chart.draw(data, {allowHtml:true});
```

```
CAMLQuery: '<Query><OrderBy><FieldRef Name="
completefunc: function(xData,Status){
}
});
```





IE

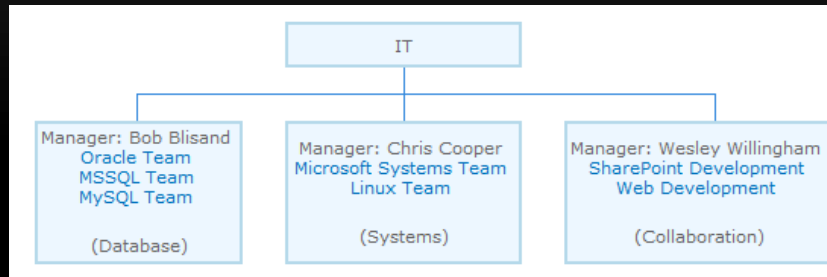


Firefox

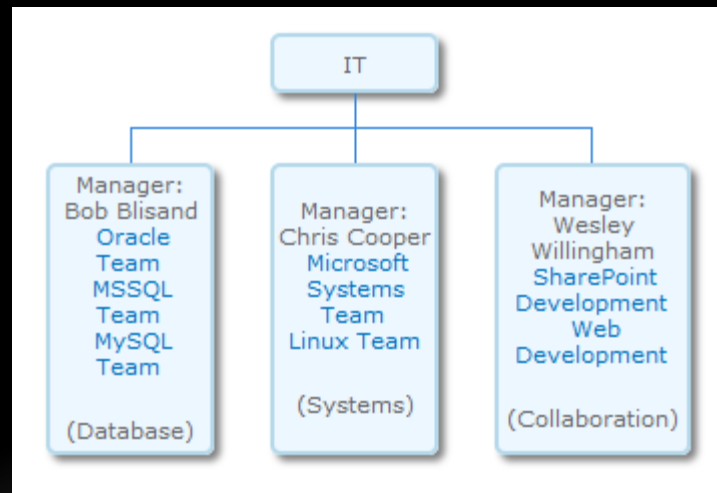
```

function GetContent(LookupValue)
{
    var out='';
    var content, url;
    // use SPServices to query the Site Map Content list for all nodes that match the
    // LookupValue. Grab the Title, Url, Position and SiteMapNode fields.
    $().SPServices({
        operation: 'GetListItems',
        listName: 'Site Map Content',
        async: false,
        CAMLViewFields: '<ViewFields><FieldRef Name="Title" /><FieldRef Name="Url" /><FieldRef Name="Position" /><FieldRef Name="SiteMapNode" /></ViewFields>',
        CAMLQuery: '<Query><OrderBy><FieldRef Name="Position" /></OrderBy><Where><Eq><FieldRef Name="SiteMapNode" /><Value Type="Lookup">'+LookupValue+'</Value></Eq></Where></Query>',
        completefunc: function(xData,Status){
            // When the response is received from the server,
            // create our content string by iterating
            // through each row returned in the response.
            $(xData.responseXML).find('[nodeName="z:row"]').each(function(){
                url='';
                content='';
                // if our string has already been started, add a new row to the response.
                if(out.length>0)
                {
                    out+='\n';
                }
                content=$(this).attr('ows_Title');
                if($(this).attr('ows_Url')!=null)
                {
                    content='<a href="'+ $(this).attr('ows_Url') + '" title="'+ content + '">' + content + '</a>';
                }
                // add the content string to the output.
                out += content;
            });
            // one requirement I had was to put the Node name at the bottom of the box.
            // The easiest way to do this is to add an empty paragraph and then the Lookup Value.
            // This is specific to my requirement so you don't have to do this.
            out+='\n<p>&nbsp;</p>';
            out+= LookupValue.wrap('<p>(','</p>');
        }
    });
    return out;
}

```



IE

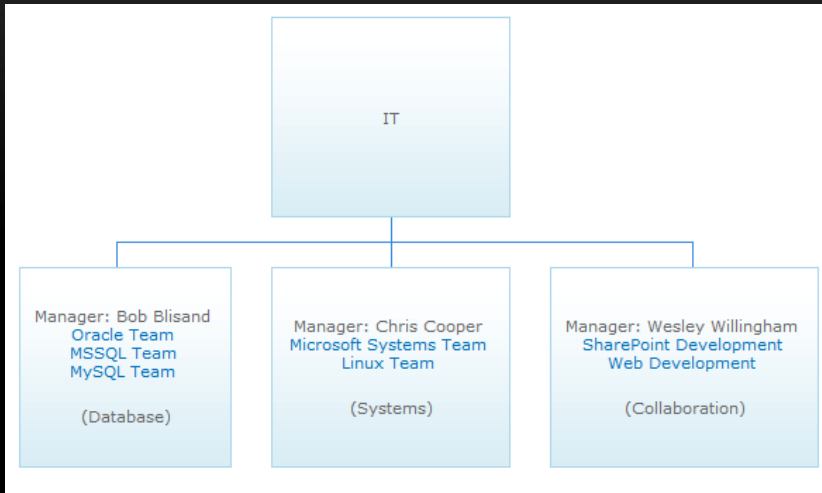


Firefox

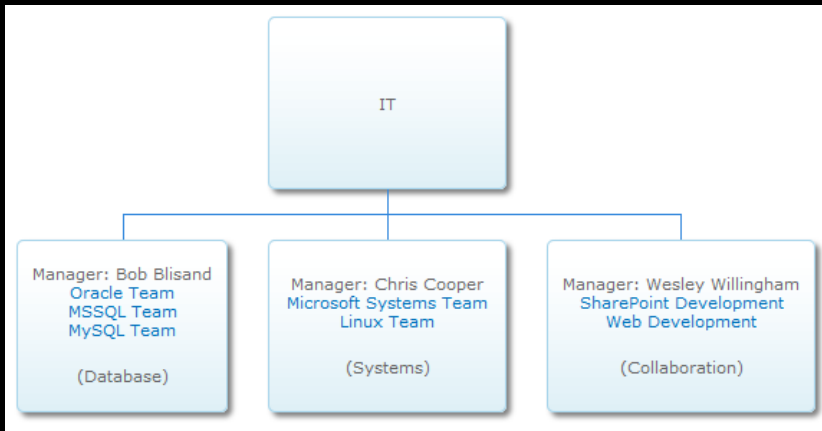


Use background image

```
<style type="text/css">
.google-visualization-orgchart-node
{
  Background-image:url(resources/images/background.gif);
  Background-repeat:repeat-x;
  Background-color:#d2eaf3 ;
  Border:1px solid #a8d5eb ;
  padding: 10px;
  height: 120px;
  white-space: nowrap;
}
</style>
```



IE



Firefox

MORE INFORMATION

- 4 Part Series – Step by Step
 - <http://whatsthesharepoint.com>
 - Download sitemap.js
 - Download background graphic
- CSS3 Reference: <http://www.css3.info>
- Amazon Search for: Pro SharePoint Designer 2010
- Google Chart Tools
 - code.google.com/apis/chart/index.html
- @dipetersen
- <http://www.linkedin.com/in/dpetersen>